

## REMARKS/ARGUMENTS

Claims 1 – 20 are presented for reconsideration and further examination in view of the foregoing amendments and the following remarks.

In the outstanding Office Action, the Examiner rejected claim 6 under 35 U.S.C. §112, second paragraph as being indefinite; rejected claims 1 – 6, 9, 11, 12 and 14 – 18 under 35 U.S.C. §103(a) as being unpatentable over reference no. WO 99/16380 to Taub et al. (hereinafter referred to as “the Taub et al. 380 reference”) in view of U.S. Patent No. 6,152,731 to Jordan et al. (hereinafter referred to as “the Jordan et al. ‘731 patent”); rejected claims 7 and 13 under 35 U.S.C. §103(a) as being unpatentable over the Taub et al. ‘380 reference in view of the Jordan et al. ‘731 patent in further view of U.S. Patent No. 6,413,083 to Hamilton (hereinafter referred to as “the Hamilton ‘083 patent”); rejected claims 8 and 10 under 35 U.S.C. §103(a) as being unpatentable over the Taub et al. ‘380 reference in view of the Jordan et al. ‘731 patent and further in view of U.S. Patent No. 6,227,850 to Chishti et al. (hereinafter referred to as “the Chishti et al. ‘850 patent”); and rejected claim 19 under 35 U.S.C. §103(a) as being unpatentable over the Taub et al. ‘380 reference in view of the Jordan et al. ‘731 patent and further in view of U.S. Patent no. 6,350,120 to Sachdeva et al. (hereinafter referred to as “the Sachdeva et al. ‘120 patent”).

By this Response and Amendment, claims 1, 6, 11 and 18, have been amended and, as amended, the rejections thereto and the rejections to the claims dependent thereon have been traversed; and claim 20 has been newly added.

Support for the amendments to the independent claims can be found on page 12, line 25 through page 13, line 8 of the originally filed specification. Support for new claim 20 can be found in lines 3 – 5 of page 9 of the originally filed specification. Therefore, Applicants submit that the no new matter, within the meaning of 35 U.S.C. §132, has been introduced to the application.

### **Rejections Under 35 U.S.C. §112, Second Paragraph**

The Examiner rejected claim 6 as being indefinite for not reciting a specific claim dependency.

#### **Response**

By this Response and Amendment, claim 6 has been amended to recite a specific claim dependency.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection under 35 U.S.C. §112, second paragraph.

### **Rejections Under 35 U.S.C. §103(a)**

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) the prior art references teach or suggest all of the claim limitations. *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970).

#### **1. The Taub et al. '380 Reference In View Of The Jordan et al. '731 Patent**

The Examiner rejected claims 1 – 6, 9, 11, 12 and 14 – 18 as being unpatentable over the Taub et al. '380 reference in view of the Jordan et al. '731 patent.

#### **Response**

By this Response and Amendment, Applicants respectfully traverse the Examiner's rejection, since the combination of prior art references does not disclose, teach or suggest all of the features of

the independent claims of the present application.

Independent claim 1 recites “...discontinuing obtaining of said virtual representation and discontinuing processing of said virtual representation; storing said display of said virtual image of at least one tooth with a bracket thereon; and *after* said discontinuing obtaining of said virtual representation and said discontinuing processing of said virtual representation, using a reproduction of a stored display of said virtual image as a visual comparison guide to assist in proper positioning of said one or more brackets directly on corresponding said one or more teeth of said individual.”

Similarly, independent claim 11 recites “...*after* discontinuing obtaining of said virtual representation and *after* discontinuing processing of said virtual representation, said displayed virtual image may be used as a visual comparison guide to assist in proper positioning of said one or more brackets directly on corresponding said one or more teeth of said individual...;” and claim 18 recites “*after* discontinuing said acquisition and said storage of data representative of a three dimensional teeth arrangement and *after* discontinuing obtaining of said virtual representation, said displayed virtual image may be used as a visual comparison guide to assist in proper positioning of said one or more brackets directly on corresponding said one or more teeth of said individual.”

The Taub et al. '380 reference discloses a device for providing guidance information for an intended position of an orthodontic element on a tooth's surface and simultaneously positioning the element on the tooth's surface according to the intended position. The device requires the use of a positioning device 20 for placing a bracket on a tooth. The bracket 20 includes a camera 26 (or other imaging device) mounted on a mount. The Jordan et al. '731 patent discloses a method of creating a three-dimensional dental model.

Neither the Taub et al. '380 reference nor the Jordan et al. '731 patent, alone or in combination with each other, discloses, teaches or suggests “*after* said discontinuing obtaining of

said virtual representation and said discontinuing processing of said virtual representation, using a reproduction of a stored display of said virtual image as a visual comparison guide to assist in proper positioning of said one or more brackets directly on corresponding said one or more teeth of said individual,” as recited in amended independent claim 1 and as similarly recited in independent claims 11 and 18.

The Taub et al. ‘380 reference in combination with the Jordan ‘731 patent only discloses *simultaneously* imaging a patient’s teeth while placing an orthodontic component thereon. The presently claimed invention is advantageous over the cited prior art in that the imaging process can be performed independent of the orthodontic component placement process. Thus with the presently claimed invention, a technician can obtain an image of the patient’s teeth, discontinue imaging of the patient’s teeth, then fax, email, mail, or in some other way, transmit the imaged teeth showing virtual bracket placement to an orthodontist for the orthodontist’s review and approval. The orthodontist does not need to be at the patient’s location. After approving the virtual bracket placement, and at a time later than that of the imaging process, the technician can refer to the stored virtual images to place real brackets on a patient’s teeth.

This advantage is not possible in the Taub et al. ‘380 reference because, to properly place a bracket on a person’s teeth, “the real-life image and the guidance [virtual] information are superimposed together on display” *the Taub et al. ‘380 reference* at 4, lines 21 – 22. The real-life image must be captured at the same time bracket placement occurs so that the virtual image can be superimposed over the real-life image. Superimposition is not a requirement of the presently claimed invention.

Since the cited prior art combination does not disclose, teach or suggest “*after* said discontinuing obtaining of said virtual representation and said discontinuing processing of said

virtual representation, using a reproduction of a stored display of said virtual image as a visual comparison guide to assist in proper positioning of said one or more brackets directly on corresponding said one or more teeth of said individual,” as recited in amended independent claim 1 and as similarly recited in independent claims 11 and 1, neither the Taub et al. ‘380 reference nor the Jordan et al. ‘731 patent, alone or in combination with each other, renders the presently claimed invention obvious.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejection under 35 U.S.C. §103(a).

**2. The Taub et al. ‘380 Reference In View Of The Jordan et al. ‘731 Patent And Further In View Of The Hamilton ‘083 Patent**

The Examiner rejected claims 7 and 13 under 35 U.S.C. §103(a) as being unpatentable over the Taub et al. ‘380 reference in view of the Jordan et al. ‘731 patent and further in view of the Hamilton ‘083 patent.

**Response**

By this Response and Amendment, Applicants respectfully traverse the Examiner’s rejection, since all of the features of the presently claimed invention are not disclosed, taught or suggested by the cited prior art. The arguments above with respect to the Taub et al. ‘380 reference and the Jordan et al. ‘731 patent are incorporated herein by reference.

Adding the Hamilton ‘731 patent to the combination of the Taub et al. ‘380 reference and Jordan et al. ‘731 patent does not cure the deficiencies of the cited combination. The Hamilton ‘083 patent discloses a computerized system for diagnosing a tooth-size discrepancy and recommending an ideal arch size based on the size of an individual patient’s teeth. The Hamilton ‘731 patent is

silent as to “discontinuing obtaining of said virtual representation and discontinuing processing of said virtual representation; storing said display of said virtual image of at least one tooth with a bracket thereon; and *after* said discontinuing obtaining of said virtual representation and said discontinuing processing of said virtual representation, [and] using a reproduction of a stored display of said virtual image as a visual comparison guide to assist in proper positioning of said one or more brackets directly on corresponding said one or more teeth of said individual.” As such, the addition of the Hamilton ‘731 patent to the combination of the Taub et al. ‘380 reference with the Jordan et al. ‘731 patent does not render the presently claimed invention obvious.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejection under 35 U.S.C. §103(a).

**3. The Taub et al. ‘380 reference In View Of The Jordan et al. ‘731 Patent And Further In View Of The Chishti et al. ‘850 Patent**

The Examiner rejected claims 8 and 10 as being unpatentable over the Taub et al. ‘380 reference in view of the Jordan et al. ‘731 patent and further in view of the Chishti et al. ‘850 patent.

**Response**

By this Response and Amendment, Applicants respectfully traverse the Examiner’s rejection, since all of the features of the presently claimed invention are not disclosed, taught or suggested by the cited prior art. The arguments above with respect to the Taub et al. ‘380 reference and the Jordan et al. ‘731 patent are incorporated herein by reference.

Adding the Chishti et al. ‘850 patent to the combination of the Taub et al. ‘380 reference and Jordan et al. ‘731 patent does not cure the deficiencies of the cited combination. The Chishti et al. ‘850 patent discloses a system that captures three-dimensional (3D) data associated with a patient’s

teeth, determines a viewpoint for the patient's teeth, applies a positional transformation to the 3D data based on the viewpoint, and renders the orthodontic view of the patient's teeth based on the positional transformation. However, the Chishti et al. '850 patent is silent as to "discontinuing obtaining of said virtual representation and discontinuing processing of said virtual representation; storing said display of said virtual image of at least one tooth with a bracket thereon; and *after* said discontinuing obtaining of said virtual representation and said discontinuing processing of said virtual representation, [and] using a reproduction of a stored display of said virtual image as a visual comparison guide to assist in proper positioning of said one or more brackets directly on corresponding said one or more teeth of said individual." As such, the addition of the Chishti et al. '850 patent to the combination of the Taub et al. '380 reference with the Jordan et al. '731 patent does not render the presently claimed invention obvious.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejection under 35 U.S.C. §103(a).

**4. The Taub et al. '380 reference In View Of The Jordan et al. '731 Patent And Further In View Of The Sachdeva et al. '120 Patent**

The Examiner rejected claim 19 as being unpatentable over the Taub et al. '380 reference in view of the Jordan et al. '731 patent and further in view of the Sachdeva et al. '120 patent; and

**Response**

By this Response and Amendment, Applicants respectfully traverse the Examiner's rejection, since all of the features of the presently claimed invention are not disclosed, taught or suggested by the cited prior art. The arguments above with respect to the Taub et al. '380 reference and the Jordan et al. '731 patent are incorporated herein by reference.

Adding the Sachdeva et al. '120 patent to the combination of the Taub et al. '380 reference and Jordan et al. '731 patent does not cure the deficiencies of the cited combination. The Sachdeva et al. '120 patent discloses using a three-dimensional digital model of an orthodontic structure to develop a custom jig for installing an orthodontic bracket. However, the Sachdeva et al. '120 patent is silent as to "discontinuing obtaining of said virtual representation and discontinuing processing of said virtual representation; storing said display of said virtual image of at least one tooth with a bracket thereon; and *after* said discontinuing obtaining of said virtual representation and said discontinuing processing of said virtual representation, [and] using a reproduction of a stored display of said virtual image as a visual comparison guide to assist in proper positioning of said one or more brackets directly on corresponding said one or more teeth of said individual." As such, the addition of the Sachdeva et al. '120 patent to the combination of the Taub et al. '380 reference with the Jordan et al. '731 patent does not render the presently claimed invention obvious.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejection under 35 U.S.C. §103(a).

#### **MISCELLANEOUS**

Claim 20 is asserted to be patentable over the cited prior art for at least the reason that the cited prior art does not disclose, teach or suggest "selecting one or more virtual brackets corresponding to the one or more real brackets from a virtual bracket catalogue containing a plurality of virtual brackets" as recited in claim 20. Since none of the cited references disclose, teach or suggest this feature claim 20 is asserted to be patentable over the cited references. Accordingly, Applicants respectfully request allowance of claim 20.

## CONCLUSION

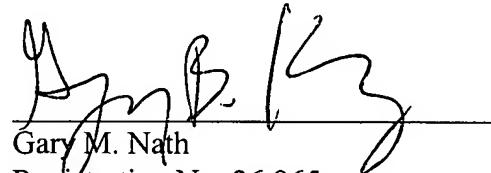
In light of the foregoing, Applicants submit that the application is now in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicants respectfully request that the Examiner contact the undersigned attorney if it is believed that such contact will expedite the prosecution of the application.

In the event this paper is not timely filed, Applicants petition for an appropriate extension of time. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 14-0112.

Date: January 3, 2006  
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By:

Respectfully submitted,  
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# Pre-Bill

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SUB \$ 1,250.00  
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Jan 03, 2006  
C I P E 14885  
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P A T E N T & T R A D E M A R K O F F I C E  
Latter #: 25537y

RE:U.S. Patent Application No. 10/797,126

Title: Method and System For Assisting In Applying An Orthodontic Treatment

Responsible Attorney:  
Gary M. Nath

Inventor(s): Kopelman et al.

Ref(s): 25537Y / 1527365

DATE	DESCRIPTION	HOURS	AMOUNT	LAWYER
Oct-31-05	1870516 Reviewing filing receipt; Reporting filing to client	0.40	26.00	MJM <i>review sub</i>
Nov-02-05	1871733 Determining Issue Fee NAA cust. no has been associated with file; preparing chg of address notification	0.10	6.50	MJM
Nov-03-05	1871693 Determining if NAA cust. no. has been associated with file; preparing change of address notification	0.10	6.50	MJM
Nov-04-05	1872231 Preparing documents for shipping via overseas courier;	0.10	13.50	DD
Nov-17-05	1881284 Receiving client request for ROA recommendations; researching MPEP for procedure regarding combinations of references; preparing recommendations for client's review	2.80	630.00	DR <i>✓</i>
Dec-05-05	1888096 Review and analyze patent application and outstanding rejections and further advise client.	0.40	140.00	GK <i>ATTACH</i>
Dec-06-05	1891688 Telephone conference with Yehuda Seruya regarding advice for responding to Office Action (due 1/4/06); advising amending claims, adding a new independent claim, and arguing against motivation to combine cited 103 references; memorializing conversation in an email to Yehuda Seruya.	0.90	202.50	DR <i>ATTACH</i>
Dec-24-05	1900098 Preparing proposed claim amendments and new claim 20 for client's review.	3.10	697.50	DR
Dec-28-05	1899869 Review claims and prior art in further advising with respect to responding to outstanding Office Action. 1900152 Preparing proposed claim amendments and new claim 20 for client's review	0.30	105.00	GK
Jan-03-06	1901662 Receiving instructions from client to revise and/or finalize response in accordance with draft provided; finalizing and filing response at USPTO and reporting same to client;	0.80	180.00	DR
		1.50	337.50	DR



Totals	10.50	\$2,345.00
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**FEE SUMMARY:**

Lawyer	Hours	Effective Rate	Amount
Gregory B. Kang	0.70 1.2	\$350.00	<del>\$245.00</del> 420.00
Derek Richmond	9.10	\$225.00	<del>\$2,047.50</del> 1,470.00
Matthew J. Moffa	0.60	\$65.00	\$39.00
US Paralegal-DD	0.10	\$135.00	\$13.50

**DISBURSEMENTS**

	Disbursements	
1871733 Photocopies		5.40
1871733 Courier		5.35
Jan-03-06 1901660 Patent Office Fee Serial No. 10/797,126		100.00
	Totals	\$110.75
	<b>Total Fees, Disbursements</b>	<b>\$2,455.75</b>

ATTACHMENT

Receiving client request for Response to Office Action recommendations; reviewing and analyzing patent application and outstanding rejections; preparing recommendations for client's review. Conducting telephone conference with Yehuda Seruya regarding advice for responding to Office Action; advising amending claims, and adding a new independent claim.

\$342.50